

# Inspector General

United States  
Department of Defense



American Recovery and Reinvestment Act  
"Heating, Ventilation, and Air Conditioning  
Replacement" Project at  
Naval Support Activity Norfolk—  
Planning and Initial Execution Could  
Have Been Improved

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## **Acronyms and Abbreviations**

COAR	Contracting Officer's Authorized Representative
HVAC	Heating, Ventilation, and Air Conditioning
JFSC	Joint Forces Staff College
NAVFAC	Naval Facilities Engineering Command
NSA	Naval Support Activity
OMB	Office of Management and Budget
PWD	Public Works Department
QA	Quality Assurance
QC	Quality Control
QMAD	Quantitative Methods and Analysis Division





INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
ARLINGTON, VIRGINIA 22202-4704

SEP 16 2011

MEMORANDUM FOR NAVAL INSPECTOR GENERAL  
COMMANDING OFFICER, NAVAL FACILITIES  
ENGINEERING COMMAND MID-ATLANTIC

SUBJECT: American Recovery and Reinvestment Act "Heating, Ventilation, and Air Conditioning Replacement" Project at Naval Support Activity Norfolk—  
Planning and Initial Execution Could Have Been Improved  
(Report No. D-2011-109)

We are providing this report for review and comment. Public Works Department officials lacked sufficient documentation supporting the heating, ventilation, and air conditioning replacement project, valued at \$19.25 million. In addition, contracting officials did not identify contract oversight responsibilities in writing and did not develop a quality assurance plan for monitoring the contractor's progress and performance.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The Commanding Officer, Naval Facilities Engineering Command Mid-Atlantic did not comment on the draft report. Therefore, we request the Commanding Officer comment on Recommendations 1, 2, and 3 by October 17, 2011.

If possible, send a .pdf file containing your comments to [audros@dodig.mil](mailto:audros@dodig.mil). Copies of your comments must have the actual signature of the authorizing official for your organization. We are unable to accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to me at (703) 604-8866 (DSN 664-8866).

A handwritten signature in blue ink, reading "Alice F. Carey", is positioned above the typed name.

Alice F. Carey  
Assistant Inspector General  
Readiness, Operations, and Support

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# Results in Brief: American Recovery and Reinvestment Act “Heating, Ventilation, and Air Conditioning Replacement” Project at Naval Support Activity Norfolk—Planning and Initial Execution Could Have Been Improved

## What We Did

Our objective was to evaluate whether Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic officials appropriately used American Recovery and Reinvestment Act (Recovery Act) funds by adequately planning, funding, initially executing, and tracking and reporting the \$19.25 million “Heating, Ventilation, and Air Conditioning (HVAC) Replacement” project located at Naval Support Activity, Norfolk, Virginia.

## What We Found

The HVAC Replacement project did not meet Recovery Act requirements. Specifically, Public Works Department officials lacked sufficient documentation supporting the HVAC replacement project. Additionally, contracting officials did not initially execute the HVAC Replacement project adequately. Contracting officials did not identify contract oversight responsibilities in writing and did not develop a quality assurance plan. These conditions occurred because Public Works Department officials believed the DD Form 1391, “FY 2010 Special Projects Program,” was the main document needed to support the HVAC replacement project; contracting officials stated that having contract oversight responsibilities in writing was not required and contracting officials stated a quality assurance plan was not needed for construction contracts and instead relied on the contractor’s quality control plan. As a result, DoD did not have reasonable assurance that Recovery Act funds were used

appropriately. However, NAVFAC Mid-Atlantic officials properly distributed Recovery Act funds to the HVAC Replacement project, and contracting officials properly tracked and reported required project information.

## What We Recommend

We recommend that the Commanding Officer, NAVFAC Mid-Atlantic, provide adequate documentation to justify the need to replace the HVAC system; require all project submissions to fully demonstrate the need for the projects; and designate, in writing, contract oversight responsibilities for a qualified contracting officer’s authorized representative or equivalent official.

## Management Comments

The Commanding Officer, NAVFAC Mid-Atlantic, did not comment on the draft of this report issued on August 4, 2011. We request that the Commanding Officer provide comments by October 17, 2011. Please see the recommendations table on the back of this page.



Two-pipe HVAC system in building SC-1 of the Joint Forces Staff College, Naval Support Activity, Norfolk, Virginia. Photo taken by DoD Office of Inspector General

**Recommendations Table**

Management	Recommendations Requiring Comment	No Additional Comments Required
Commanding Officer, Naval Facilities Engineering Command Mid-Atlantic	1., 2., and 3.	

**Please provide comments by October 17, 2011.**

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# Introduction

## Objective

Our objective was to evaluate DoD's implementation of Public Law 111-5, "American Recovery and Reinvestment Act of 2009," (Recovery Act), February 17, 2009. Specifically, we determined whether Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic officials appropriately used Recovery Act funds by adequately planning, funding, initially executing, and tracking and reporting the Heating, Ventilation, and Air Conditioning (HVAC) Replacement project located in building SC-1 at the Joint Forces Staff College (JFSC), Naval Support Activity (NSA), Norfolk, Virginia. See Appendix A for a discussion of our scope and methodology.

## Background

In passing the Recovery Act, Congress provided supplemental appropriations to preserve and create jobs; promote economic recovery; assist those most impacted by the recession; provide investments to increase economic efficiency by spurring technological advances in science and health; and invest in transportation, environmental protection, and other infrastructure. The Recovery Act also established unprecedented efforts to ensure the responsible distribution of funds for its purposes and to provide transparency and accountability of expenditures by informing the public of how, when, and where tax dollars were being spent.

DoD received approximately \$7.16 billion<sup>1</sup> in Recovery Act funds for projects that support the Act's purpose. In March 2009, DoD released expenditure plans for the Recovery Act, which listed DoD projects that received Recovery Act funds. The Department of the Navy received \$1.17 billion in Recovery Act funds for Operations and Maintenance; Military Construction; and Research, Development, Test, and Evaluation. Of the \$1.17 billion appropriated to the Department of the Navy, NAVFAC Headquarters allocated approximately \$19.43 million (Operations & Maintenance) to support Project RM 211-08, HVAC Replacement in building SC-1, JFSC, at NSA, Norfolk, Virginia.

## Recovery Act Requirements

On April 3, 2009, the Office of Management and Budget (OMB) issued Memorandum M-09-15, "Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009," to provide government-wide guidance and requirements for the implementation of the Recovery Act. The guidance and requirements are intended to meet accountability goals: (1) funds are awarded and distributed in a prompt, fair, and reasonable manner; (2) the recipients and uses of all funds are transparent to the public,

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<sup>1</sup>DoD originally received \$7.4 billion; however, Public Law 111-226, Title III, "Rescissions," rescinded \$260.5 million on August 10, 2010. The \$7.16 billion does not include \$4.6 billion for the U.S. Army Corps of Engineers.

and the public benefits of these funds are reported clearly, accurately, and in a timely manner; (3) funds are used for authorized purposes, and the potential for fraud, waste, error, and abuse is mitigated; (4) projects funded under the Recovery Act avoid unnecessary delays and cost overruns; and (5) program goals are achieved, including specific program outcomes and improved results on broader economic indicators.

## **HVAC Replacement Project**

JFSC uses Joint Chiefs of Staff educational instruction programs for educating military and civilian leaders to plan and fight at the operational level of war. The Public Works Department (PWD) NSA Norfolk, a component of NAVFAC Mid-Atlantic, develops the requirements for projects at JFSC.

On March 31, 2009, PWD officials prepared a DD Form 1391, “FY 2010 Special Projects Program,” for the HVAC Replacement project in building SC-1, valued at \$14.31 million. The DD Form 1391 stated that building SC-1 is four stories tall and comprised 165,260 square feet of training, seminar, instructor, and administrative spaces. PWD officials stated that over the last 46 years, only minor repairs and renovations had occurred to sustain the building’s HVAC system.<sup>2</sup> The DD Form 1391 also stated that “a majority of the heating, air conditioning distribution system consists of the original installation and the current condition of the overall structure was rated as poor during the last long-range maintenance inspection completed in 2007.” According to PWD officials, HVAC components such as air handlers, compressors, and exhaust fans had either failed or were failing; and asbestos removal was required. The HVAC Replacement project is scheduled to be completed in March 2012.

On April 2, 2009, PWD officials prepared a DD Form 1391 for renovations to the auditorium in building SC-1, “Renovate Auditorium SC-1” (Project RM 09-0653), valued at \$1.71 million. The DD Form 1391 stated the space in building SC-1 was in poor physical condition, and the renovation work would correct building deficiencies. This project proposed to repair or replace such items as walls, ceilings, doors, trim, and carpeting; repaint interior space; abate asbestos floor tiles; and repair the HVAC system. The “Impact If Not Provided” section of the DD Form 1391 stated “without this project, space in building SC-1 will continue to deteriorate and require NSA Norfolk to use scarce repair dollars.”

In an e-mail dated November 23, 2009, the Commander, Navy Installations Command, authorized NAVFAC Mid-Atlantic to use Recovery Act funds for the auditorium renovation project and include it as part of the HVAC Replacement project. Overall, the HVAC Replacement project was allocated approximately \$19.43 million in Recovery Act

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<sup>2</sup>The HVAC system consists of chillers, boilers, cooling towers, chilled and hot water pumps, and a fire and sprinkler system. Its components include piping, controls, exhaust fans, air handling, and fan coil units located in the wings (A through E) of building SC-1.

funding for restoration and modernization, \$19.25 million<sup>3</sup> of which contracting officials awarded to the contractor.

## **Review of Internal Controls**

DoD Instruction 5010.40, “Managers’ Internal Control Program (MICP) Procedures,” July 29, 2010, requires DoD organizations to establish a managers’ internal control program to review, assess, and report the effectiveness of the controls. We identified internal control weaknesses regarding inadequate project planning and contract execution, as defined by DoD Instruction 5010.40. Specifically, PWD officials lacked documentation supporting the need for the HVAC Replacement project, and contracting officials did not identify contract oversight responsibilities in writing or develop a quality assurance plan for monitoring the contractor’s progress and performance. We describe these weaknesses in our report finding. We will provide a copy of the report to the senior official responsible for internal controls at NAVFAC Mid-Atlantic.

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<sup>3</sup>NAVFAC Mid-Atlantic officials stated the remaining \$.17 million was used for in-house labor costs.

## Finding. HVAC Replacement Project Did Not Meet Recovery Act Requirements

PWD officials lacked sufficient documentation supporting the need for the HVAC Replacement project,<sup>4</sup> valued at \$19.25 million. In addition, contracting officials did not initially execute the HVAC Replacement project adequately. Contracting officials did not identify contract oversight responsibilities in writing and did not develop a quality assurance plan (QA) for monitoring the contractor's progress and performance. These conditions occurred because:

- PWD officials believed the DD Form 1391 was the main document needed to support the HVAC Replacement project;
- contracting officials stated that having contract oversight responsibilities in writing was not required for construction contracts, such as the contract for the HVAC Replacement project; and
- contracting officials stated a QA plan was not needed for construction contracts and instead relied on the contractor's quality control (QC) plan.

As a result, DoD did not have reasonable assurance that Recovery Act funds were appropriately used. However, NAVFAC Mid-Atlantic officials properly distributed Recovery Act funds to the project, and contracting officials ensured that the contractor reported information required by the Recovery Act.

### PWD Officials Lacked Supporting Documentation

PWD officials lacked sufficient supporting documentation for substantiating the use of \$19.25 million in Recovery Act funds for the HVAC replacement project. Naval Instruction 11010.20G, "Facilities Projects Instruction," October 14, 2005, states that project documentation is a critical first step in the planning process; and that supporting documentation is required to fully communicate the location, scope, complexity, cost, and urgency of the project. Also, documentation provides a record of actions taken to address a particular facilities requirement and how those actions were funded.

***HVAC Replacement.*** PWD officials did not have documentation, such as maintenance records, repair history, or documentation of any ongoing deterioration to substantiate the need to replace the HVAC system. On March 31, 2009, PWD officials prepared a DD Form 1391 identifying the need to replace the HVAC system and related components, valued at \$14.31 million. Although PWD officials cited the history of prior repairs, the age of the system, and equipment failures previously identified by experienced personnel as the basis for developing the DD Form 1391, they did not have sufficient documentation to support these conditions. On the DD Form 1391, PWD officials stated that, in 2007, they conducted a long-range maintenance inspection of

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<sup>4</sup>In November 2009, the Commander, Navy Installations Command authorized the auditorium renovation project as part of the HVAC Replacement project.



building SC-1, including the HVAC system. PWD officials informed us that this long-range maintenance inspection was actually a walkthrough they completed of building SC-1. However, they provided no documentation on their findings from the walkthrough. PWD officials stated that the age (46 years) of the HVAC system was the main reason for replacing it, which was documented in the DD Form 1391. They stated that because the DD Form 1391 is the main document used to support projects, they deemed the DD Form 1391 sufficient.

**Auditorium Renovation.** PWD officials did not have documentation to substantiate the need for the auditorium renovation. On April 2, 2009, PWD officials prepared a DD Form 1391 to renovate the auditorium in building SC-1. On the DD Form 1391, PWD officials stated renovations planned included repair/replace of walls, ceilings, doors, trim, lights, and floor covering for the project. They also stated the space in building SC-1 is currently in poor physical condition and without this project, space in building SC-1 will continue to deteriorate. Although PWD officials cited the condition of the building as poor, they did not have documentation to support the auditorium's condition. PWD officials later provided four photographs of the auditorium; however, these photographs did not demonstrate the extent of work needed for the cost of the project. PWD officials believed that the DD Form 1391 was sufficient because it is the main document used to substantiate the need for projects. However, additional documentation was needed, such as maintenance records and repair history, to justify the need to renovate the auditorium.

PWD officials should fully document the need for projects. Fully documenting the need for the HVAC Replacement project will enable PWD officials to support the requirement for the use of Recovery Act funds.

## Contract Oversight Needs Improvement

Contracting officials did not initially execute the HVAC Replacement project adequately. Specifically, the contracting officer did not identify contract oversight responsibilities for the contracting officer's authorized representative (COAR) in writing or develop a QA

*Contracting officials did not initially execute the HVAC Replacement project adequately.*

plan for monitoring the contractor's progress and performance. OMB Memorandum M-09-15 states that agencies must provide for appropriate oversight of contracts to ensure outcomes that are consistent with and measurable against agency plans and goals under the Recovery Act. It also states that it is critical that agencies evaluate their workforce needs so that they are able to appoint qualified

contracting officers and contracting officer's technical representatives with certification levels appropriate to the complexity and risk of Recovery Act projects.

**Contract Oversight Responsibilities Not Identified In Writing.** In a September 4, 2009, appointment letter, the NAVFAC Mid-Atlantic Acquisition Director appointed a COAR for construction contracts, stating that the COAR's authority was limited to in-scope construction modifications not to exceed \$100,000. The COAR's

responsibilities included developing budget estimates, developing and issuing requests for proposal, receiving and analyzing contractor's proposals, and building and executing modifications. Although contracting officials believed the oversight responsibilities in an existing COAR's appointment letter were sufficient, the appointment letter did not specify contract oversight responsibilities for the HVAC Replacement project. Contracting officials stated that having contract oversight responsibilities in writing was not required for construction contracts. Contracting officials should clearly specify oversight responsibilities in appointment letters to ensure that performance, cost, and schedule goals are met.

**No Quality Assurance Plan.** Contracting officials did not develop a QA plan for overseeing the HVAC Replacement project. Instead, the COAR relied on the contractor's QC plan to provide oversight. According to the NAVFAC Engineering and Construction Bulletin, "Capital Improvements—Prioritizing Construction QA Using the Four Categories of Work," October 17, 2006, QA is defined as the system by which the Government verifies that the contractor's system of quality control is working effectively and construction work-in-place complies with the contract requirements. The Bulletin states that construction QA teams will incorporate a formal process of documenting a risk assessment approach towards QA and analyze the risk of not performing QA responsibilities. Additionally, the Bulletin states QA responsibility will be accomplished based on acceptable risk and that all construction QA personnel will review and apply this assessment process for each contract. The COAR did not conduct a risk assessment for the HVAC Replacement project to determine the level of QA oversight needed.

*Contracting officials did not develop a QA plan for overseeing the HVAC Replacement project.*

A contracting official for the HVAC Replacement project stated the contracting office did not develop a QA plan for each construction project. The COAR stated that completing a risk assessment for the HVAC Replacement project was not necessary because it would add no value beyond that of the appropriate level of QA oversight indicated by the contractor personnel's experiences. According to contracting officials, developing a QA plan was not required because the contractor is required to develop a QC plan for each project, which would suffice. Contracting officials stated the QC plan provided sufficient controls to construct a quality facility. QA officials stated that the QA team uses various QC elements to monitor contractor performance, such as attending preparatory meetings, reviewing contractor submittals, attending biweekly QC meetings, and collecting/analyzing the contractor's performance through the QC daily reports. As stated in the Bulletin, however, the QA team should document a risk assessment and analyze the risk of not performing certain responsibilities. In response to a discussion draft of this report, contracting officials developed a QA plan for the HVAC replacement project.

## **Distribution of Recovery Act Funds Was Timely**

Department of the Navy officials distributed Recovery Act funds to the HVAC Replacement project in a timely manner, and the funding documents properly identified the project with a Recovery Act designation. Funding documents showed the Department of the Navy allocated \$19.43 million in Recovery Act funds to the Commander, Navy Installations Command for the project. The Commander, Navy Installations Command then distributed \$19.42 million<sup>5</sup> to NAVFAC Atlantic. On November 23, 2009, NAVFAC Mid-Atlantic contracting officials awarded task order 0004 (contract N40085-09-D-5033) in the amount of \$13.86 million to the contractor. Modifications later increased the project cost by an additional \$5.39 million, totaling \$19.25 million in contract costs for the HVAC Replacement project. NAVFAC Mid-Atlantic officials stated the remaining \$.17 million was used for in-house labor costs.

## **Contractor Reported Required Information**

Contracting officials followed processes and procedures to ensure tracking and reporting requirements were met. Contracting officials reported the contract award number, total amount awarded, project status, jobs reported, description of jobs created, contractor name and address, and project description quarterly to [www.recovery.gov](http://www.recovery.gov). The contractor reported the project information required by the Recovery Act. The contractor reported the number of jobs, a description of quarterly project activities, and the total award dollar value for each of the task order awards to [www.FederalReporting.gov](http://www.FederalReporting.gov) as required by Federal Acquisition Regulation clause 52.204-11, “American Recovery and Reinvestment Act—Reporting Requirements.”

## **Conclusion**

The HVAC Replacement project did not meet Recovery Act requirements. PWD officials lacked sufficient documentation to support the \$19.25 million cost of the project. Contracting officials should identify contract oversight responsibilities for the COAR to ensure the COAR conducts proper oversight. These actions will assist DoD in achieving reasonable assurance that Recovery Act funds were appropriately used for the HVAC Replacement project.

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<sup>5</sup>Of the \$19.43 million distributed to the HVAC Replacement project, \$6,172 would be recaptured by Commander, Navy Installations Command (\$19.43 million minus \$6,172 equals \$19.42 million).

## **Recommendations**

We recommend that the Commanding Officer, Naval Facilities Engineering Command Mid-Atlantic:

1. Provide adequate documentation to support the project requirements for justifying the need to replace the heating, ventilation, and air conditioning system.
2. Require all DD Form 1391s submitted for renovation projects to fully demonstrate the need for the project.
3. Designate, in writing, contract oversight responsibilities for a qualified contracting officer's authorized representative or equivalent for the Heating, Ventilation, and Air Conditioning Replacement project.

## **Management Comments Required**

The Commanding Officer, Naval Facilities Engineering Command Mid-Atlantic, did not comment on a draft of this report. We request that the Commanding Officer, Naval Facilities Engineering Command Mid-Atlantic, provide comments on the final report.

## **Appendix A. Scope and Methodology**

We conducted this audit from August 2009 through August 2011. We conducted this audit in accordance with generally accepted government auditing standards. These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our conclusion based on our audit objectives.

The overall objective was to evaluate DoD's implementation of the Recovery Act. To accomplish our objective, we audited the planning, funding, initial execution, and tracking and reporting of the HVAC Replacement project located in building SC-1 at JFSC. Specifically, we determined whether:

- the selected project was adequately planned to ensure the appropriate use of Recovery Act funds (Planning);
- funds were distributed in a prompt, fair, and reasonable manner (Funding);
- the contract awarded was transparent, competed, and contained required Recovery Act Federal Acquisition Regulation clauses (Initial Execution); and
- recipients' use of funds was transparent to the public; and the benefits of the funds were clearly, accurately, and timely reported (Tracking and Reporting).

We interviewed key NAVFAC Mid-Atlantic officials at Naval Station Norfolk, NSA Norfolk, and JFSC. We reviewed project requirements, economic analyses, funding documents, cost documentation, criteria, a request for proposal, a pre-solicitation, a proposed task order, amendments, a contract, and a task order and its modifications. We toured the mechanical room where the HVAC system was located, the auditorium, and various wings in building SC-1.

### **Use of Computer-Processed Data**

We used computer-processed data obtained from the Excluded Parties List System, Central Contractor Registration System, the Federal Business Opportunities Web site, Navy Electronic Commerce Online, e-Projects, and RS Means. Our use of computer-processed data did not materially affect our audit results. Therefore, we did not evaluate the reliability of the computer-processed data we used.

### **Use of Technical Assistance**

Before selecting DoD Recovery Act projects for audit, personnel from the Quantitative Methods and Analysis Division (QMAD) of the DoD Office of Inspector General analyzed all DoD agency-funded projects, locations, and contracting oversight organizations to assess the risk of waste, fraud, and abuse associated with each. QMAD personnel selected most audit projects and locations using a modified Delphi technique, which allowed us to quantify the risk based on expert auditor judgment and other quantitatively developed risk indicators. QMAD personnel used information collected from all projects to update and improve the risk assessment model. QMAD personnel



selected 83 projects with the highest risk rankings; auditors chose some additional projects at the selected locations.

QMAD personnel did not use classical statistical sampling techniques that would permit generalizing results to the total population because there were too many potential variables with unknown parameters at the beginning of this analysis. The predictive analytic techniques employed provided a basis for logical coverage not only of Recovery Act dollars being expended, but also of types of projects and types of locations across the Military Services, Defense agencies, State National Guard units, and public works projects managed by U.S. Army Corps of Engineers.

## **Prior Audit Coverage**

The Government Accountability Office, the DoD Office of Inspector General, and the Military Departments have issued reports and memoranda discussing DoD projects funded by the Recovery Act. You can access unrestricted reports at <http://www.recovery.gov/accountability>.

## **Appendix B. Recovery Act Criteria and Guidance**

The following list includes the primary Recovery Act criteria and guidance used during our review:

- Public Law 111-5, “American Recovery and Reinvestment Act of 2009,” February 17, 2009
- OMB Memorandum for Chief Acquisition Officers, “The Federal Acquisition Certification for Contracting Officer Technical Representatives,” November 26, 2007
- OMB Memorandum M-09-15, “Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009,” April 3, 2009
- Federal Acquisition Regulation, Subchapter B, “Competition and Acquisition Planning, Part 5, “Publicizing Contract Actions,” March 2005
- NAVFAC P-442, “Economic Analysis Handbook,” October 1993
- Office of the Chief of Naval Operations Naval Instruction 11010.20G, “Facilities Projects Instruction,” October 14, 2005
- NAVFAC Engineering & Construction Bulletin “Prioritizing Construction QA using the Four Categories of Work,” October 17, 2006



# Inspector General Department of Defense

